

FILE ID**FOOBOT

I 9

FOO
VO4

The diagram illustrates a sequence of binary strings arranged in a grid. The strings are as follows:

- Row 1: L
- Row 2: LL
- Row 3: LLL
- Row 4: LLLL
- Row 5: LLLLL
- Row 6: LLLLLL
- Row 7: LLLLLLL
- Row 8: LLLLLLLL
- Row 9: LLLLLLLLL
- Row 10: LLLLLLLLLL
- Row 11: L
- Row 12: LLL
- Row 13: LLLL
- Row 14: LLLLL
- Row 15: LLLLLL
- Row 16: LLLLLLL
- Row 17: LLLLLLLL
- Row 18: LLLLLLLLL
- Row 19: LLLLLLLLLL
- Row 20: S
- Row 21: SS
- Row 22: SSS
- Row 23: SSSS
- Row 24: SSSSS
- Row 25: SSSSSS
- Row 26: SSSSSSS
- Row 27: SSSSSSSS
- Row 28: SSSSSSSSS
- Row 29: SSSSSSSSSS

```
1 0001 0 MODULE foobot ( IDENT = 'V04-000'  
2 0002 0 %BLISS32[, ADDRESSING_MODE (EXTERNAL = LONG_RELATIVE  
3 0003 0 NONEXTERNAL = LONG_RELATIVE)]  
4 0004 0 ) =  
5 0005 1 BEGIN  
6 0006 1 *****  
7 0007 1 *  
8 0008 1 *  
9 0009 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY  
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26 0026 1 *  
27 0027 1 *  
28 0028 1 *****  
29 0029 1 *  
30 0030 1 *  
31 0031 1 **  
32 0032 1 : FACILITY: DSR (Digital Standard RUNOFF) / DSRPLUS  
33 0033 1 :  
34 0034 1 : ABSTRACT:  
35 0035 1 :  
36 0036 1 : Puts as many footnotes as possible at the bottom of the current page.  
37 0037 1 :  
38 0038 1 : ENVIRONMENT: Transportable  
39 0039 1 :  
40 0040 1 : AUTHOR: R.W.Friday CREATION DATE: November, 1981  
41 0041 1 :
```

Revision History

K 9
16-Sep-1984 00:31:07 VAX-11 Bliss-32 v4.0-742
14-Sep-1984 13:06:23 [RUNOFF.SRC]FOOBOT.BLI;1Page 2
(2)FOO
V04

: 43 0042 1 %SBTTL 'Revision History'
: 44 0043 1 MODIFIED BY:
: 45 0044 1
: 46 0045 1 004 RER00004 Ron Randall 05-Apr-1983
: 47 0046 1 For DSRPLUS: Added code for footnote numbering.
: 48 0047 1
: 49 0048 1 003 RER00003 Ron Randall 07-Mar-1983
: 50 0049 1 Global edit of all modules. Updated module names, idents,
: 51 0050 1 copyright dates. Changed require files to BLISS library.
: 52 0051 1 !--
: 53 0052 1

Module Level Declarations

L 9
16-Sep-1984 00:31:07
14-Sep-1984 13:06:23
VAX-11 Bliss-32 V4.0-742
[RUNOFF.SRC]FOOBOT.BLI;1Page 3
(3)FOO
V04

```
55 0053 1 %SBTTL 'Module Level Declarations'  
56 0054 1  
57 0055 1 TABLE OF CONTENTS:  
58 0056 1  
59 0057 1 FORWARD ROUTINE  
60 0058 1 FOOBOT : NOVALUE;  
61 0059 1  
62 0060 1 INCLUDE FILES:  
63 0061 1  
64 0062 1 LIBRARY 'NXPORT:XPORT'; ! XPORT Library  
65 0063 1 REQUIRE 'REQ:RNODEF'; ! RUNOFF variant definitions  
66 0194 1  
67 U 0195 1 %IF DSRPLUS %THEN  
68 U 0196 1 LIBRARY 'REQ:DPLLIB'; ! DSRPLUS BLISS Library  
69 0197 1 %ELSE  
70 0198 1 LIBRARY 'REQ:DSRLIB'; ! DSR BLISS Library  
71 0199 1 %FI  
72 0200 1  
73 0201 1  
74 0202 1 MACROS:  
75 0203 1  
76 0204 1 This macro makes certain that when blank lines at the top or bottom  
77 0205 1 of a page are skipped change bars don't get output.  
78 0206 1  
79 0207 1 MACRO  
80 M 0208 1 NO_BAR_SKIP (N) =  
81 M 0209 1 BEGIN  
82 M 0210 1 LOCAL  
83 M 0211 1 HOLD_BARS;  
84 M 0212 1  
85 M 0213 1 HOLD_BARS = .TSF_BARS;  
86 M 0214 1 TSF_BARS = FALSE;  
87 M 0215 1 USKIPL (N);  
88 M 0216 1 TSF_BARS = .HOLD_BARS;  
89 0217 1 END-%;  
90 0218 1  
91 0219 1 EXTERNAL REFERENCES:  
92 0220 1  
93 0221 1 EXTERNAL ! Footnote control table.  
94 0222 1 FNCT : FNCT DEFINITION,  
95 0223 1 FNESIZ : FN EXT SIZE DEFINITION,  
96 0224 1 HCT : HCT DEFINITION,  
97 0225 1 PHAN : PHAN DEFINITION,  
98 0226 1 TSF : TSF_DEFINITION;  
99 0227 1  
100 0228 1 EXTERNAL LITERAL  
101 0229 1 RNFFWF;  
102 0230 1  
103 0231 1 EXTERNAL ROUTINE  
104 0232 1 ERML  
105 0233 1 FOOOUT,  
106 0234 1 TPFFIT,  
107 0235 1 TPFSPK,  
108 0236 1 USKIPL;  
109 0237 1
```

```
111 0238 1 GLOBAL ROUTINE foobot : NOVALUE =
112 0239 1
113 0240 1 !++
114 0241 1 | FUNCTIONAL DESCRIPTION:
115 0242 1
116 0243 1 | See ABSTRACT, above.
117 0244 1
118 0245 1 | FORMAL PARAMETERS: None
119 0246 1
120 0247 1 | IMPLICIT INPUTS: None
121 0248 1
122 0249 1 | IMPLICIT OUTPUTS: None
123 0250 1
124 0251 1 | ROUTINE VALUE:
125 0252 1 | COMPLETION CODES: None
126 0253 1
127 0254 1 | SIDE EFFECTS: None
128 0255 1 |
129 0256 1
130 0257 2 BEGIN
131 0258 2
132 0259 2
133 0260 2 | See if there are any footnotes to be output.
134 0261 2
135 0262 3 IF (.FNCT_READY NEQ 0)
136 0263 2 THEN
137 0264 2
138 0265 2
139 0266 2 | See if these footnotes should be output now.
140 0267 2 | Check for two cases:
141 0268 2 | one in which there's a footnote that's too big to fit on the page,
142 0269 2 | and the other in which there's no such error.
143 0270 2
144 0271 2 | Skip over old footnotes, consider the first ready footnote.
145 0272 2
146 0273 2 IF .FNESIZ [.FNCT_OLD] GTR
147 0274 3 (.PHAN_LLINES + .HCT_LAYOUTN -
148 0275 4 (IF .HCT_HEADERS
149 0276 4 THEN ! 3 is title line + 2 blank lines.
150 0277 5 3 + (IF .HCT_SUBTITLE THEN 1 ELSE 0)
151 0278 4 ELSE
152 0279 4 0)
153 0280 4
154 U 0281 4 XIF DSRPLUS XTHEN
155 U 0282 4 - (IF .FNCT_NUMBERING THEN 1 ELSE 0)
156 U 0283 4 XFI
157 0284 4
158 0285 3 )
159 0286 2 THEN
160 0287 2
161 0288 2 | The first ready footnote is so lengthy that it requires
162 0289 2 | more space than allowed per page of the document,
163 0290 2 | so force it out now and complain to the user.
164 0291 2
165 0292 3 BEGIN
166 0293 3 ERML (RNFFWF);
167 0294 3 FOOOUT (1) ! Dump one footnote, namely the bad one.
```

```

168      0295 3      END
169      0296 2      ELSE
170      0297 2
171      0298 2      | These footnotes are not too lengthy, so see if there is
172      0299 2      | space at the bottom of the page to output them now.
173      0300 2
174      0301 3      BEGIN
175      0302 3      LOCAL
176      0303 3      HOW_MANY_FIT;
177      0304 3
178      0305 3
179      0306 3      | Find out how many footnotes of the ready ones can fit.
180      0307 3
181      0308 3      HOW_MANY_FIT = TPFFIT ();
182      0309 3
183      0310 4      IF (.HOW_MANY_FIT NEQ 0)
184      0311 3      THEN
185      0312 3
186      0313 3      | There are some footnotes that will fit. Output them.
187      0314 3
188      0315 4      BEGIN
189      0316 4      LOCAL
190      0317 4      HOLD_PAGING;
191      0318 4
192      0319 4      HOLD_PAGING = .PHAN_PAGING;
193      0320 4      PHAN_PAGING = FALSE;
194      0321 4
195      0322 4      Position to proper location on page.
196      0323 4
197      0324 4      NO_BAR_SKIP (TPFSKP (.HOW_MANY_FIT));
198      0325 4      FOOOUT (.HOW_MANY_FIT); ! Generate the footnotes now.
199      0326 4      PHAN_PAGING = .HOLD_PAGING;
200      0327 4      END
201      0328 4
202      0329 2      END;
203      0330 2
204      0331 1      END;           ! End of routine FOOBOT

```

```

.TITLE FOOBOT
.IDENT \V04-000\
.EXTRN FNCT, FNESIZ, HCT
.EXTRN PHAN, TSF, RNFFWF
.EXTRN ERML, FOOOUT, TPFFIT
.EXTRN TPFSKP, USKIPL

.PSECT $CODE$,$NWR$,2

```

58 00000000G	EF	01FC	00000	.ENTRY FOOBOT Save R2,R3,R4,R5,R6,R7,R8	0238
57 00000000G	EF	9E	00002	MOVAB TSF, R8	
56 00000000G	EF	9E	00009	MOVAB FOOOUT, R7	
55 00000000G	EF	9E	00010	MOVAB HCT+32, R6	
00000000G	EF	D5	00017	MOVAB PHAN+40, R5	
50 00000000G	4C	13	00024	TSTL FNCT+4	
				BEQL 6\$	
				MOVL FNCT+12, R0	

0262
0273

Module Level Declarations

B 10
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14-Sep-1984 13:06:23 VAX-11 Bliss-32 V4.0-742
[RUNOFF.SRC]FOOBOT.BLI;1

Page 6 (4)

52	DC	B5		66	C1	0002D		ADDL3	HCT+32, @PHAN+4, R2	: 0274	
10			E8	86	E9	00032		BLBC	@HCT+8, 3\$: 0275	
05			F8	86	E9	00036		BLBC	@HCT+24, 1\$: 0277	
51				01	D0	0003A		MOVL	#1, R1		
				02	11	0003D		BRB	2\$		
				51	D4	0003F	1\$:	CLRL	R1		
				51	C0	00041	2\$:	ADDL2	#3, R1		
				02	11	00044		BRB	4\$		
				51	D4	00046	3\$:	CLRL	R1		
				52	C2	00048	4\$:	SUBL2	R1, R2		
				51	D1	0004B		CMPL	FNESIZ[R0], R2		
				13	15	00053		BLEQ	5\$		
				00000000G	EF	DD	00055	PUSHL	#RNFFWF		
					01	FB	0005B	CALLS	#1, ERML		
					01	DD	00062	PUSHL	#1		
					67	FB	00064	CALLS	#1, FOOOUT		
							04	RET			
					00000000G	EF	00	CALLS	#0, TPFFIT		
					53	FB	00068	5\$:	MOVL	R0, HOW_MANY_FIT	
					50	DO	0006F	BEQL	7\$		
					38	13	00072	6\$::	MOVL	@PHAN+40, HOLD_PAGING	
					54	00	00074	CLRL	@PHAN+40		
					50	DO	00078	MOVL	TSF, R0		
					68	DO	0007B	EXTZV	#0, #1, 124(R0), HOLD_BARS		
					01	EF	0007E	BICB2	#1, 124(R0)		
					7C	A0	00	PUSHL	HOW_MANY_FIT		
					01	8A	00084	CALLS	#1, TPFSRP		
					53	DD	00088	PUSHL	R0		
					00000000G	EF	01	CALLS	#1, USKIPL		
					50	FB	0008A	MOVL	TSF, R0		
					50	DD	00091	INSV	HOLD_BARS, #0, #1, 124(R0)		
					01	FB	00093	PUSHL	HOW_MANY_FIT		
					68	DO	0009A	CALLS	#1, FOOOUT		
					01	52	FO	MOV	HOLD_PAGING, @PHAN+40		
					00	53	DD	RET			
					67	FB	000A5				
					00	B5	54				
							04				
							000AC				
							7\$:				

: Routine Size: 173 bytes, Routine Base: \$CODE\$ + 0000

: 205 0332 1
: 206 0333 1 END
: 207 0334 0 ELUDOM

! End of module

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE\$	173	NOVEC,NOWRT, RD , EXE,NOSHR, LCL REL, CON,NOPIC,ALIGN(2)

Library Statistics

File	Total	Symbols Loaded	Percent	Pages Mapped	Processing Time
\$255\$DUA28:[SYSLIB]XPORT.L32:1	590	0	0	252	00:00.1
-\$255\$DUA28:[RUNOFF.SRC]DSRLIB.L32:1	1248	20	1	86	00:00.3

COMMAND QUALIFIERS

BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS\$:FOOBOT/OBJ=OBJ\$:FOOBOT MSRC\$:FOOBOT/UPDATE=(ENH\$:FOOBOT)

Size: 173 code + 0 data bytes
Run Time: 00:04.5
Elapsed Time: 00:14.5
Lines/CPU Min: 4453
Lexemes/CPU-Min: 13266
Memory Used: 51 pages
Compilation Complete

0341 AH-BT13A-SE
VAX/VMS V4.0

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